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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 43081-2023

Replacing GB/T 15766.1-2008

Lamps and light sources for road vehicles - Dimensional, electrical and luminous requirements

道路　辆灯泡和光源 尺寸、光电性能要求

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Foreword

This document was drafted in accordance with the provisions of GB/T 1.1-2020 "Directives for standardization - Part 1: Rules for the structure and drafting of standardizing documents".

This document replaces GB/T 15766.1-2008 "Lamps and light sources for road vehicles - Dimensional, electrical and luminous requirements". Compared with GB/T 15766.1- 2008, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- ADD the terms and definitions of "luminous flux maintenance rate", "non- replaceable light source", "rated value" (see 3.8, 3.12, 3.13);

changing the expression method of approach lines to the expression method of boundary lines and intersections (see 4.4; 2.4 of GB/T 15766.1-2008);

- ADD the chromaticity requirements of "finished filament lamps emitting selective yellow light" in the "color" of filament lamps (see 4.8);

- DELETE "Requirements for standard headlamps" (see 2.8.4 of GB/T 15766.1-

- ADD the requirements for "non-replaceable filament bulbs" (see 4.11);

- CHANGE the "rise characteristics" requirements for gas discharge bulbs (see 5.6.2;

bulbs, changing the approach line expression method to the boundary line and intersection expression method (see 5.8; 3.8 of GB/T 15766.1-2008);

- ADD the "LED light source requirements and test conditions" (see Chapter 6);

- CHANGE the bulb type catalog to distinguish between bulb types that refer to R.E.5 and bulb types included in this document (see Table 3; Table 3 of GB/T 15766.1-2008);

- DELETE the bulb type data leaflet in the "leaflet" that was repeated with UNR.E.5 (see Chapter 5 of GB/T 15766.1-2008);

- ADD 9 filament bulb types and bulb data leaflets of "H6, HB1, S4, H5, H2, HS3, B1.13W, B0.6W, B2.4W" (see 8.3);

- ADD the content "If it is a double filament bulb, only the high-power (main light or high beam) filament works" in the "Measuring method for filament bulb color" (see B.1);

- ADD the content "When the receiver and the filament are blocked by an opaque part of the light source, such as a wire, a second filament, etc." in the "Measurement direction" of the "Measuring method for filament bulb color" (see B.3.1);

- ADD the "LED light source" in the photoelectric performance test conditions (see

- ADD the "Measurement method for internal parts of HB1 bulbs" (see Appendix F);

- ADD the content about "Calibration of test chamber" in "Color durability measurement test conditions" (see J.2);

- ADD the content "and can no longer be used in signal devices, which shall be regarded as the end of the life of signal devices" in "End" of "Color durability measurement test conditions" (see J.7);

- ADD "Switching mode of intermittent and continuous filament bulbs in one working cycle" (see Figure J.8).

This document identically adopts IEC 60809:2021 "Lamps and light sources for road vehicles - Dimensional, electrical and luminous requirements".

Please note that some contents of this document may involve patents. The issuing agency of this document does not assume the responsibility for identifying patents.

This document was proposed by China Light Industry Federation.

This document shall be under the jurisdiction of the National Technical Committee for Standardization of Lighting Appliances (SAC/TC 224).

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This document was first published in 1995 as GB 15766.1-1995. It was revised for the first time in 2000. It was revised for the second time in 2008. This is the third revision.

1 Scope

This document applies to electric light sources in road vehicle lighting devices and/or light signal devices (see Note 1).

It is particularly applicable to light sources listed in UN Resolution R.E.5 and light sources subject to other regulations.

This document specifies the technical requirements for interchangeability, including dimensions, optoelectronic performance, as well as corresponding measurement methods.

IEC 60810 specifies requirements for light source life, torsion strength, vibration and impact resistance.

IEC 60983 specifies small road motor vehicle bulbs for auxiliary purposes that are not covered by regulations.

Note 1: In this document, the terms "bulb" and "light source" refer to the same product, as these two terms are interchangeable in this document.

Note 2: In different vocabularies and standards, different terms are used for "incandescent lamp" (845-07-04 in GB/T 2900.65-2004), "discharge lamp" (845-07-17 in GB/T 2900.65-2004), "LED lamp". In this document, "filament lamp", "discharge lamp", "LED light source" are used. However, when only "lamp" and "light source" are written, it refers to lamps of these three technologies, unless the context clearly indicates that it is used to refer to lamps of a certain technology only. In UN regulations, the term "light source" is used for products specified in this document.

Note 3: "Device" in this document refers to equipment used for lighting purposes. For example, equipment used as headlights or signal lights.

2 Normative references

document through normative references in the text. Among them, for dated references, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

3 Terms and definitions

The terms and definitions defined in IEC 60050-845, IEC 60810, R.E.5, UNR48, as well as the following terms and definitions, apply to this document. The pre-treatment cycle of the light source before obtaining the initial value. The basic design of a standardized light source. Note: Each specific designation, for example, P21/5W, H4, D2R, can constitute a type of bulb, most of which are derived from R.E.5. Evaluate the conformity of a given type of bulb in mass production according to the requirements of relevant provisions. Note: Government agencies may check product conformity according to local regulatory requirements. Headlight used to illuminate the road ahead of the vehicle and will not dazzle people in front of the vehicle, especially drivers of oncoming vehicles. Note: The term is "passing beam" in UN regulations. Luminous flux at the end of aging. 10% of the same type of light sources tested have reached their respective life time. Note: Weibull distribution method is usually used. The minimum and/or maximum values that the characteristics of the lamp must meet when it is working under specified conditions. The ratio -of the luminous flux to the initial luminous flux at a given time within the working life when the light source is working under specified conditions.

4 Requirements and test conditions for filament bulbs

4.1 General